

FRIDAY, OCTOBER 12TH, 2018

Trip A1: MIGMATITES OF THE EASTERN ADIRONDACK MOUNTAINS: NEW CONSTRAINTS ON THE TIMING, PETROLOGY, AND TECTONIC SETTING OF PARTIAL MELTING

LEADERS: Mike Williams, Tim Grover, Claire Pless, Kaitlyn Suarez, and Sean Regan; First Author Contact Information: Department of Geosciences, University of Massachusetts, Amherst, Ma, mlw@umass.edu.

DESCRIPTION: This trip will examine several migmatite localities in the eastern Adirondack Mountains and discuss new petrologic, geochronologic (monazite and zircon U-Pb dating), and structural results. The migmatites range from biotite-garnet gneisses to sillimanite-bearing khondalites. New results suggest that melting occurred during at least two major events, the Shawinigan and the Ottawan orogenies, with different localities experiencing different degrees of melting and melt loss. A major goal is to discuss the implications for the tectonic history of the Adirondack Mountains region of the Grenville Province and also the implications for mapping and studying high-grade migmatites in general.

TIME, PLACE, LOGISTICS: Friday, October 12. The trip will have two starting points. Some vans and cars will leave from the Fort. William Hotel at 8:00 AM. Additional vans and cars can meet at the first stop (North Pond/Swede Pond). The official trip begins at North Pond at 9:00 AM. **Meeting Point** (for those not meeting at the Fort William Hotel): Meet at the parking area at the east end of North Pond on Rt.8, ~5mi west of Hague, NY. Note, there are two pull-offs, one at the east end and one near the western end of North Pond. The trip will meet at the east end pull-off. Park along the edges of the pull-off road. The meeting point is also the first stop. We will have an introductory talk and then visit outcrops across Rt. 8. **UTM: NAD 83, 18T 0614217; 4844335**

Most of the stops are road-side stops. It will be grassy, possibly wet, and as usual, there is potential for ticks, chiggers, mosquitos, etc.

Trip A2: GEOLOGY OF THE CARTHAGE-COLTON SHEAR ZONE AND LYON MOUNTAIN GRANITE: AN ADIRONDACK FIELD TRIP IN HONOR OF BRUCE SELLECK

LEADERS: William Peck, Eric Johnson, and Martin Wong; First Author Contact Information: Department of Geology, Colgate University, Hamilton, New York 13346, wpeck@colgate.edu, Cell 315 382 2662

DESCRIPTION: Join us in the northwest Adirondacks for a field trip to examine the Carthage Colton shear zone, the high-strain boundary between the Adirondack Highlands and Lowlands terranes. Field trip stops will focus on the structural evolution, petrology, and geochronology of the footwall of shear zone and emplacement of the syntectonic Lyon Mountain granite. This field trip is in honor of Bruce Selleck, Thomas A. Bartlett Chair and Professor of Geology at Colgate University, who passed away unexpectedly on Monday, July 31 2017. Bruce had deep ties to the upstate New York region, growing up on a farm underlain by Carthage Colton shear zone, and eventually coming back to work and publish on these rocks. This trip will revisit key stops from the Friends of the Grenville field conference on these rocks led by Eric Johnson and Bruce in 2005.

TIME, PLACE, LOGISTICS: This field trip begins at the Citgo Gas Station in Croghan, NY, street address 9741 NY Route 812. The geology caravan will depart at 9 AM on Friday Morning, October 12, 2018. Four stops are roadside outcrops, and one stop is a short uphill hike. The field trip ends near Colton NY in the afternoon, ~60 miles from the starting point. Colton is a 2.5–3.0 hour drive from Lake George. The Welcoming Reception in Lake George is from 5:30 to 8:00 PM.

Lunch will be eaten on the outcrop, so participants will need to bring their own bag lunch. The Croghan Citgo has a deli counter and small grocery selection.

Trip A3: STRUCTURAL AND STRATIGRAPHIC FEATURES OF THE TACONIC FORELAND, NW VERMONT

LEADERS: Adam Schoonmaker and William Kidd; First Author Contact Information: Dept. of Geosciences, Utica College, Utica, NY 13502; email: adschoon@utica.edu

DESCRIPTION: This trip will focus on some of the spectacular structural and stratigraphic features exposed in NW Vermont at the Highgate Gorge, Lessor's Quarry, and the "Beam". The last two are Rolfe Stanley Memorial outcrops. The trip will cover the nearly continuously exposed Cambrian to Ordovician section in the Highgate Gorge. This section exposes the shelf to basin transition including bedded limestone and massive dolomite, a spectacular shelf slope limestone breccia, as well as basinal slates with likely transported carbonate shelf beds. The out-of-sequence cataclastic Highgate Falls Thrust is well-exposed, as well as a number of other Taconic-aged structures including folds, axial plane cleavage, and rotated en echelon fractures. The "Beam" is a superb meso-scale illustration of duplex faulting in thin-skinned foreland belts, while Lessors Quarry exposes fault-bend fold structures as well as a number of fault zone features, and an excellent example of an out-of-sequence thrust. This trip is highly recommended for students to examine a number of well-exposed and clear stratigraphic and structural features.

TIME, PLACE, LOGISTICS: 8:00 am, Price Chopper Parking Lot, Prosser Road (off of Rt. 9), Warrensburg. We will consolidate vehicles and proceed to the village green at Highgate Center VT, approximately 2.5 hours travel time via Interstate 87 North.

Trip A4: NEW VIEWS ON THE DEGLACIATION OF MT MANSFIELD

LEADERS: Paul Bierman, Lee Corbett, Stephen Wright, and Chris Halstead, University of Vermont; P Thompson Davis, Bentley University and Jeremy Shakun, Boston College; email: pbierman@uvm.edu

DESCRIPTION: Mt. Mansfield, the highest peak in Vermont, preserves evidence of Pleistocene glaciation including erratic boulders, striations, and ice-sculpted rock outcrops. Over the past several years, we have been collecting samples of bedrock and erratic boulders and using them for cosmogenic dating. To place those measurements in context, we have done LIDaR based mapping of recessional sedimentary features including moraines and have mapped striations where bedrock crops out on the mountain. This part-day day trip will (weather permitting) travel to the top of the mountain by car and visit locations we have sampled while discussing the ages that resulted from these analyses. We will discuss evidence for ineffective erosion at the mountain peak (could there have been cold-based ice?). If time permits, we may examine ice marginal deposits in the valley resulting from ice channelized by the topography. For those who are interested, the trip will end with a tour of the Vermont cosmogenic clean labs now supported by as a community sample processing facility by the US NSF.

TIME, PLACE, LOGISTICS: Meet at 9:00 am, Stowe Mountain Resort Parking Lot, this is adjacent to the Toll Road up Mount Mansfield and reached from the Mountain Road (Route 108) in Stowe, VT. It is immediately adjacent to the Inn at the Mountain (<https://earth.app.goo.gl/p4hZ95>) and located at: 44.51069951, -72.76578428. We will consolidate vehicles (primarily using UVM vans) to reduce impact on the Mountain Road and because of limited parking at the summit. Trip limited to 30 people in total. NOTE: you must bring lunch, food, water and warm clothes; once we leave the parking lot there are no facilities on the mountain.

Trip A5: IAPETAN RIFT–PASSIVE MARGIN TRANSITION IN NE LAURENTIA AND EUSTATIC CONTROL ON CONTINENTAL SLOPE OXYGENATION, TACONIC SLATE COLORS, AND EARLY PALEOZOIC CLIMATE

LEADERS: Ed Landing and Mark Webster; First Author Contact Information: New York State Museum, Albany, NY 12230, email: ed.landing@nysed.gov

DESCRIPTION: The central role of eustatic change in determining temporally related shelf sequence stratigraphy, macro- and mesoscale oxic/dysoxic alternations on the east Laurentian continental slope, mudstone and subsequent slate colors in slope facies, and Early Paleozoic climate alternations is emphasized on this trip. The trip will move as a caravan through autochthonous shelf units and coeval continental slope (Taconian) units in the Whitehall, NY, area and in the Giddings Brook slice as far south as Schaghticoke, NY. A full schedule of 12 stops as road and quarry cuts and a gentle 0.6 km walk through completely exposed late Early Cambrian units on Mettawee River comprise the field trip. The focus is on explanation, discussion, and photographic records at the stops, while hammering and collecting at these fragile outcrops will be discouraged.

TIME, PLACE, LOGISTICS: Friday, October 12, 8:30 AM in the parking lot of the Fort William Henry Hotel and Conference Center in Lake George village. The field trip route is less than 150 miles round-trip on asphalt roads, and participants will make dinner if we move quickly, but with thorough coverage, through the stops (probably with EL shouting in fractured German to move quickly, stay together, reboard cars, etc.). Bring lunches and a beverage; a quick pick-up can be done about 9:30 with the one bathroom stop at a convenience store. Vehicles must be consolidated, and it would be best if several participants can bring large vans. My hope is to have ca. 29 participants with no more than 5 cars, with participants contacting me so that I could set up the caravan. **Warnings:** Bring rain gear in the event of rain; temperatures will likely be pleasant. Lyme ticks and mosquitoes with West Nile may still be around in October, so bring bug spray, DEET, etc. The stops do not involve climbing or long walks, and heavy duty boots are not needed. You will probably have to step into shallow water on the Mettawee River walk.

SATURDAY, OCTOBER 13TH, 2018

Trip B1: GEOLOGY OF THE COPPER-KILN LANDSLIDE: A GLIMPSE INTO THE MARCY MASSIF DETACHMENT ZONE

LEADERS: Sean Regan, Victor Guevara, Tess Drauschak and Jeff Chiarenzelli; First Author Contact Information: Dept of Geosciences, University of Alaska, Fairbanks, Fairbanks AK 99775, email: sregan5@alaska.edu

DESCRIPTION: The Marcy massif is a > 3,000 km² Proterozoic (ca. 1.15 Ga) anorthosite complex underlying the majority of the High Peaks region of the Adirondack Mountains. Despite widespread evidence for experiencing granulite-facies metamorphic conditions during the Ottawa (ca. 1070 Ma) orogeny, the Marcy anorthosite massif preserves igneous textures and structures classically interpreted as the result of anorthosite's high rheologic strength relative to surrounding rocks. Recent mapping along the southeast margin of the Marcy anorthosite massif has shown that it is surrounded by a thick ductile shear zone with consistent kinematic indicators suggesting top-down to the southeast relative motion that formed during collapse of the Adirondack highlands. The 2011 tropical storm Irene catalyzed greater than 40 new/reactivated landslides in the High Peaks region of the Adirondack Mountains, including one just north of Wilmington along the northern margin of the Marcy anorthosite massif. The field trip will look at the Copper-Kiln Landslide, which exposes deformed marginal rocks of the Marcy anorthosite massif, including: garnetiferous gabbroic anorthosite, deformed skarn rocks, and syn-kinematic leucogranites. We will discuss the geologic significance of rare kinematic indicators exposed in the Copper-Kiln landslide (and in other slides throughout the Marcy massif), as well as U-Pb zircon geochronology of syn-kinematic leucogranite. Together, the structural and geochronologic data indicate that the Marcy massif is draped by a domed top-to-the-southeast detachment zone that likely initiated during collapse of the Grenville Province, which corresponds in time to the development of granulite-facies assemblages and onset of leucogranitic plutonism that hosts IOA deposits of current economic interest. **The field trip will involve a > 3 mile hike (one way) and steep rocky terrane. Please bring your lunch and ample water.**

TIME, PLACE, LOGISTICS: **Carpooling is required!** Parking at the trailhead is extremely limited. To consolidate vehicles, meet in the parking lot at Wilmington Town Beach at Lake Everest, Wilmington, NY at **9:00 am**. If possible, please carpool from the Lake George area with others who are staying there for the weekend. From the Wilmington Town Beach, we will carpool to the trailhead, which is located c. 5.9 km to the northwest, at the intersection of Bonnieview and John Bliss Road.

Trip B2: THE PISECO LAKE SHEAR ZONE: A SHAWINIGAN CRYPTIC SUTURE IN THE SOUTHERN ADIRONDACK MOUNTAINS, NEW YORK

LEADERS: Dave Valentino and Jeff Chiarenzelli; First Author Contact Information: Department of Atmospheric and Geological Sciences, SUNY Oswego, Oswego, NY 13126, email: david.valentino@oswego.edu

DESCRIPTION: Highly deformed Piseco granitic gneisses occur in an arching east-west transpressional ductile shear zone (Piseco Lake shear zone) that spans the width of the exposed southern Adirondacks. The highly deformed granitic gneisses have restricted silica content, are metaluminous, alkali-calcic to calc-alkalic, continental arc trace element signatures. These granitic rocks intruded supracrustal gneisses resulting in extensive Shawinigan partial melting. The Piseco Lake shear zone correlates with pronounced linear magnetic anomalies that extend well beyond the exposed Adirondack basement window. The shear zone is 20-30 km wide and forms the cryptic suture between the Adirondack Highlands (underlain primarily by anorthosite and related granitic rocks, AMCG suite; ca. 1155-1165 Ma) and the Southern Adirondack Terrane (underlain by calc-alkaline tonalitic arc rocks, ca. 1300-1350 Ma) (Valentino et al., 2018). Within the shear zone the gneisses have lineated quartz and rodded feldspar megacrysts attesting to their original coarse-grain size. Along the axis of the shear zone there are thick (1-2 km), subvertical zones of granitic L-S and L-tectonites, and the zone includes foliation domes cored by L-tectonite. Overall, the shear zone forms the core of a region of intense ductile deformation with left-lateral kinematic indicators and subhorizontal E-W ribbon lineations. This NYSGA excursion will visit field locations that span the length and width of the shear zone to highlight strain variation, and to examine lithologic differences north and south of the proposed cryptic suture.

TIME, PLACE, LOGISTICS: The trip will begin at 9:30AM, October 13, at the Charlie John's Market parking lot in Speculator, NY (43.502622°, -74.363973°). Faculty with large groups of students are especially welcome to join this trip.

Trip B3: FAULT SYSTEMS OF THE TACONIC FORELAND; WHITEHALL, NY TO WEST HAVEN, VERMONT [ALL KINDS OF FAULTS!]

LEADERS: William Kidd, Steve Howe, and Chul Lim; First Author Contact Information: formerly of Geological Sciences, University at Albany, Albany, NY 12222, email: wkidd@albany.edu

DESCRIPTION: The field trip will visit outcrops in the area of Whitehall NY and West Haven VT showing exposures of strands of the southern extension of the Champlain Thrust, as well as the westernmost thrust carrying Taconic Allochthon slates, and the easterly-downthrown Mettawee River normal fault which cuts both Champlain thrust and Taconic thrust strands. Exposures of NE-striking steeply-dipping faults with visible strike slip displacements of both left- and right-lateral sense, which at West Haven cut both thrusts and the Mettawee River fault, will also be visited. High vein fluid inclusion temperature data suggest that these strike-slip faults are also Ordovician in age. Outcrops covering a persisting stratigraphic fault, caused by failure of the compiler of the recent geological map of Vermont to recognise the presence of the extension of the Pinnacle Thrust in this area, will also be included.

TIME, PLACE, LOGISTICS: Fort William Henry parking lot, Lake George Village, Saturday, 13th October, 2018, 8.30 am. Limit: 30

Trip B4: NEW INSIGHTS INTO GLACIAL LAKES VERMONT AND ALBANY

LEADERS: John Rayburn, David DeSimone, and Amy Frappier; First Author Contact Information: Dept. of Geology, SUNY New Paltz, New Paltz, NY 12443, email: rayburnj@newpaltz.edu

DESCRIPTION: This trip will investigate strandline and ice margin features related to the progression from Albany to Vermont glacial lake phases in the northern Hudson Valley. We will work our way from north to south investigating several Hudson Valley lake levels and specifically evaluate two potential locations for the threshold of the Coveville level which was the transitional level between Lakes Albany and Vermont. Stops will include both pits and parks.

TIME, PLACE, LOGISTICS: On Saturday October 13th we will gather in the parking lot of the McDonalds in Warrensburg, NY (Interstate 87 {Adirondack Northway} Exit 23) at 8:00 AM. This is only about 10 minutes north of Lake George. All roads for this trip are paved except for private drives into sand and gravel pits. The route is designed to be as efficient as possible between stops. Several alternate but more time consuming routes exist and provide a much better sense of regional geology, but our plan is to maximize discussion time at each stop. Restrooms are available at several stops. Our lunch stop will be at the Saratoga National Historic Park, and our final stop will be at Shenantaha Creek Park just two miles from Northway Exit 12 and about 40 minutes from Lake George. Limit: 30.

SUNDAY, OCTOBER 14TH, 2018

Trip C1: THE CHEEVER AND MINEVILLE IRON OXIDE-APATITE (IOA) DEPOSITS

LEADERS: Marian Lupulescu, Jeff Chiarenzelli, Dave Bailey, Sean Regan, and Jared Singer; First Author Contact Information: Research & Collections, New York State Museum, Albany, NY, email: marian.lupulescu@nysed.gov

DESCRIPTION: The participants will visit and examine the magnetite-apatite ore, host rock, alterations, and field relations from Cheever and Mineville IOA deposits located in the eastern Adirondack Mountains. The mineralogy, texture, geochemistry, geochronology, and origin of ores and host rock will be presented and discussed on site. The former ore processing plant from Mineville and a short visit at the Iron Museum in Port Henry are included.

TIME, PLACE, LOGISTICS: The field trip starts at the Port Henry Boat Launch Site at 8:30 AM. The site is at the intersection of Dock and Velez lanes in Port Henry, Essex County. There is no problem to find the meeting place, Port Henry is a small town and the access to the site is from Rt. 22. No need for carpooling, there is enough parking space at both sites.

Trip C2: GEOLOGY OF THE NORTHERN TACONIC ALLOCHTHON: STRAIN VARIATION IN THRUST SHEETS, BRITTLE FAULTS, AND POSTRIFT DIKE EMPLACEMENT

LEADER: Jean Crespi, Jennifer Coer Boemmels, and Jessica Robinson; First Author Contact Information: Geosciences, University of Connecticut, Storrs, CT 06269, jean.crespi@uconn.edu

DESCRIPTION: In the 1970s and 80s, Bill Kidd and students at SUNY Albany produced detailed maps of the bedrock geology of the northern part of the Giddings Brook thrust sheet in the Taconic allochthon. Together with the 2011 Bedrock Geologic Map of Vermont, these maps show that (1) regional-scale structures within the thrust sheet curve to define a salient and recess and (2) the thrust sheet plunges gently to the south such that shallower structural levels are progressively exposed along strike from north to south. On this field trip, we will visit localities in the northern part of the Giddings Brook thrust sheet and present a synthesis of our work on strain variation within a 60-km-long along-strike transect of the thrust sheet. The localities also illustrate the nature of brittle faults of presumed Mesozoic age in the thrust sheet and of Early Cretaceous dikes in the Taconic lobe of the New England-Québec

igneous province. We will also present our preliminary work on the stress fields recorded by these features and their significance for the development of the eastern North American margin.

TIME, PLACE, LOGISTICS: Meet on Sunday, October 14 at 8:30 a.m. at Stop 1 (43° 31.610'N, 73° 14.835'W). Stop 1 is the roadcut on either side of County Road 18A. Park in the parking lot for the Ole Hampton House Tavern at 110 Campbell Lane in Hampton, New York. The restaurant does not have a sign other than "Free Pizza," "Band Sat. Night," or the like. It is located on the northeast corner of the intersection of County Road 18A and Campbell Lane. Park on the side of the parking lot near the trees away from the restaurant. Bring lunch and water. The lunch stop for this trip is at Glen Lake boat launch, and there is no place nearby to purchase lunch. Most of the stops are a short walk over relatively even terrain from the parking areas. One of the stops involves a scramble up a pile of slate rubble at the end of a short uphill walk into an abandoned quarry, and another stop is reached via a three-quarter mile round-trip walk in the woods on a relatively level portion of a marked hiking trail. Restrooms are available at the Stewart's Shops in Poultney (near Stop 1) and in Fair Haven (on the drive to Stop 2 and on the drive to Stop 4). Be prepared to catch up with the group on your own if you stop to use the restroom.

TRIP C3: A TRAVERSE THROUGH THE SUTURE ZONE BETWEEN LAURENTIA AND THE MORETOWN TERRANE IN NORTHWESTERN MASSACHUSETTS

LEADERS: Paul Karabinos, Francis A. Macdonald, and James L. Crowley; First Author Contact Information: Department of Geosciences, Williams College, Williamstown, MA 0126, email: pkarabin@williams.edu

DESCRIPTION: We will begin in North Adams, Massachusetts, in rocks belonging to the Laurentian margin and end in Shelburne Falls, Massachusetts, in 475 Ma arc-plutonic rocks exposed in the Shelburne Falls dome. Particular focus will be on the Rowe Schist-Moretown Formation contact, and evidence that this boundary is a fundamental suture between Laurentia and the Gondwanan-derived Moretown terrane. We will also discuss evidence that the Ordovician Shelburne Falls arc, represented by the Hallockville Pond Gneiss and the Hawley and Collinsville Formations, was built on the Moretown terrane, and that a major pulse of magmatism at 475 Ma occurred when the arc was close enough to Laurentia to capture Laurentian-derived detritus in clastic units in the Hawley Formation.

TIME, PLACE, LOGISTICS: Sunday, October 14, 2018. 9:00 am at the old Wigwam Gift Shop (now closed) on Route 2 east of downtown North Adams and 0.8 miles uphill from the Golden Eagle Restaurant at Hairpin Turn. There is extra parking 100 m east at the trailhead for the Hoosac Range trail. The view to the west includes, from south to north, Mount Greylock, the Taconic Crest, and the southern end of the Green Mountains. Note that it is about two hours by car from Lake George to North Adams. The trip will feature some roadside outcrops, several short walks, and one longer hike. Good hiking footwear recommended. Bring lunch and water. Limited restroom facilities available on remote route that most of this trip follows.

Trip C4: MOUNT GREYLOCK AS A COSMOGENIC NUCLIDE DIPSTICK TO DETERMINE THE TIMING AND RATE OF SOUTHEASTERN LAURENTIDE ICE SHEET THINNING

LEADERS: Chris Halsted, Jeremy Shakun, P. Thompson Davis, Paul Bierman, Lee Corbett, and Alexandria Koester; First Author Contact Information: Rubenstein School of Environment and Natural Resources, University of Vermont, Burlington, VT 05405, email: chalsted@uvm.edu

DESCRIPTION: The objective of this field trip will be to discuss the glacial history of Mt. Greylock, including its inundation by the Laurentide, and to demonstrate the field methodology of the cosmogenic nuclide dipstick approach. The trip will begin at the summit of Mt. Greylock, which is accessible by an auto road. The majority of the glacial history and an overview of the dipstick approach will be discussed at the summit, which not only provides stunning views of the nearby Berkshire and Taconic mountains, but features a lodge with bathrooms for any trip members who may need to use them following the ~2-hour drive to Greylock. Following the discussion at the Greylock summit, the trip will proceed on foot, following the Appalachian Trail north as it descends from the summit about 2.2 miles to Mt. Williams, which protrudes from the flank of Mt. Greylock. Along the way, we will point out some of the glacial features of Mt. Greylock, including 'The Hopper', the most southerly glacial cirque in New England, and several glacially-transported boulders which were sampled for cosmogenic nuclide exposure

dating. The trip will proceed another mile down from Mt. Williams, across the auto road that leads to the summit, and up to a ridgeline that leads to Mt. Prospect. Another couple of samples were collected here for cosmogenic nuclide exposure dating. The trip will then return the ~0.3 miles to the auto road, where vans will be waiting. In total, this trip will entail approximately 3.2 miles of walking, mostly downhill, along the Appalachian Trail.

TIME, PLACE, LOGISTICS: Trip begins on Sunday, October 14th, at 9:00 AM outside the Mount Greylock State Reservation Visitor Center located at 30 Rockwell Rd, Lanesborough, MA 01237. The drive to the Visitor Center is about 2 hours from Lake George, NY, and parking and restroom facilities are available.

Trip C5: HEAVY METAL CONTAMINATION FROM ILLEGAL BURN PILES IN AN ECOLOGICALLY SENSITIVE SITE IN WEST HAVEN, VERMONT

LEADERS: Helen Mango, Mary Droege, J. Murray McHugh, and Michelle Hluchy; First Author Contact Information: Department of Natural Sciences, Castleton University, Castleton, VT, email: Helen.Mango@castleton.edu

DESCRIPTION: The 4000-acre Helen Buckner Memorial Preserve in West Haven, Vermont, is owned and managed by The Nature Conservancy. It is located along the Poultney River and southern Lake Champlain shoreline, and contains floodplain and upland forest and wetlands. It has one of the highest levels of biodiversity in the state, including rattlesnakes and Vermont's only lizard, as well as many rare/uncommon plants and ten distinct plant communities. Along the banks of the Poultney River are several illegal garbage dumps containing different kinds of household and commercial trash and construction debris. These piles have been periodically burned, leading to the release of contaminants into the soil, air and water. Concentrations up to hundreds and even thousands of ppm Pb, Zn, Cu, As, Cr and other heavy metals have been recorded. This trip will discuss the source, transport and fate of these contaminants in the context of the ecological diversity of the site, and will include a 2.8-mile hike into Vermont's only piece of the Adirondacks.

TIME, PLACE, LOGISTICS: Assemble at the parking area/boat launch on Galick Road in West Haven, Vermont. From Lake George, NY, take Rt. 9 south approximately 4 miles to Queensbury. Turn left on Rt. 149 east for 11.7 miles to Fort Ann. Turn left on Rt. 4 north for 10.6 miles to Whitehall. Here, Rt. 4 turns right (at the traffic light), going over the Champlain Canal; stay on Broadway (heading north) for almost half a mile, then turn right on Saunders Street. Go over the Canal and then immediately left on N. Williams St. In 0.6 miles turn left on Doig St. In 0.5 miles turn left onto an unmarked dirt road. This will take you over the Poultney River. Just after the bridge, turn left (this is Galick Rd.). The parking area/boat launch is 0.2 miles from the bridge. Vehicles will be left here and the trip will be completed on foot (about 4.5 miles total walking).

We will meet at 9:00 a.m. Bring a lunch and any snacks and beverages you will need for the day. Whitehall is the closest place to purchase anything. We will probably have a late lunch at the last stop, and end the trip early. There are no formal restroom facilities.